## ANNUAL REPORT BUREAU OF INSECT PEST CONTROL 1964

Responsibility for suppression of the public nuisances listed in Section 11, Chapter 132 of the General Laws rests with the Bureau of Insect Pest Control. The law states that this suppression be accomplished on the local through the efforts of the various cities and towns.

Problems of major concern to the Bureau during this fiscal period were again the gypsy moth and the Dutch elm disease. In July it was apparant that the gypsy moth situation throughout the State, except in the recently sprayed area, would continue. The aerial survey and later egg mass survey confirmed this.

The Dutch elm disease continued to make inroads on the remaining elm population of the State. The number one control measure against this disease continues to be the prompt removal and destruction of diseased and otherwise dead and dying elms. Spraying of the more valuable elms with either DDT or Methoxychlor continues to be practiced by many cities and towns. Attempts are being made to control the disease in infected elms by injections of various chemicals. To date none of these have proven effective.

The following is a detailed report on each of the public nuisances listed in Section 11:

Gypsy Moth - During July, 1963, an aerial survey was conducted by the Bureau to determine exactly how many acres of woodland were defoliated by this insect. Franklin Airway, Inc. supplied a Cessna 172 and pilot at the rate of \$21.75 per hour. Twenty-eight hours and forty-five minutes actual flying time were required to complete the project. It was determined that there were 87,847 acres partially or wholly defoliated.

Later in the season, the amount of egg deposition by the gypsy moth was determined by members of the Bureau. Following collection of this data, the decision was made to recommend a total of 80,949 acres to be sprayed in May of 1964. In Berkshire County 55,912

acres were recommended; in Franklin County the total was 18,467 acres including 17,999 acres in the Quabbin; in Hampshire County 3,070 acres were recommended; in Barnstable County 3,500 acres were recommended.

On February 10, a letter was sent from the Bureau to those cities and towns in which control measures were recommended describing the gypsy moth situation and what could be done. On April 2, following careful deliberation, a letter was sent to the same cities and towns outlining a new approach to the problem. The decision was made to offer Bureau equipment and personnel to those communities requesting the service, and to spray by use of ground equipment those areas where homes and/or recreation were threatened by the gypsy moth.

Eight towns in Berkshire County requested the Service. Two towns preferred doing the work with their own equipment. When the project was completed, the records showed that 83.6 miles of roadside were sprayed using a total of 2,687 gallons of  $3\frac{1}{2}\%$  Sevin mixture.

In Barnstable County 6,670 acres were sprayed by air to control the gypsy moth. The towns of Falmouth, Mashpee, Sandwich, and Barnstable had a combined acreage of 4,270 acres. The spraying of a 6% DDT solution was contracted for by the towns involved. The United States Government sprayed 2,400 acres of land on the Otis Air Base for the gypsy moth.

Severe feeding by the gypsy moth was noted during the month of June in Northern Berkshire County, the Quabbin area, and in Barnstable County. Exact figures will not be available until the 1964 aerial survey has been completed.

Brown Tail Moth - Incidence of this pest has been very low during the past year, although chronic infestations can be found on

beach plum. An infestation in Dennis has been eliminated by the hand pruning of overwintering nests.

The caterpillar - The forest tent caterpillar is extremely light.

The eastern tent caterpillar has been reported heavy in certain localities. This insect is not considered economically important, due to the fact that it feeds almost exclusively on wild cherry.

Cankerworms - Spraying and the effect of natural parasites and predators has greatly reduced populations of this insect in those communities just south of Boston in which it has been in epidemic proportions for the past two or three years.

Oriental Hog Moth - This insect, never found more than 20 miles from Boston is not a serious problem.

Fall Webworm - Reports of this insect have been scattered.

Japanese Beetle - This insect continues to create problems for homeowners, owners of golf courses, etc., where lawns and clipped grass areas are important.

Saddled Prominent - This defoliator of maple and beech has for the past few years been defoliating an area in the Savoy State Forest. During the past fiscal year the infestation has subsided.

<u>Wood Ticks</u> - This problem became increasingly noticeable this year. The tick has been especially prevelent on the Cape, the Islands, and the southeastern portion of the State up as far as southern Middlesex County.

Pine Looper - For the two years previous to this report numbers of this insect have been increasing on pitch pine on that area of Cape Cod from Truro to Dennis. Plans were made by the United States Forest Service to experimentally spray an area in Dennis with Bacillus thuringiensis. Plans had to be cancelled as parasites and predators again reduced this insect to endemic conditions.

Elm Leaf Beetle - This insect creates an annual problem in those

cities and towns having large elm populations. Recently it was noted that in certain localities the beetle was showing signs of resistence to DDT. During the past year, many communities substituted the newer insecticide, Sevin, with excellent results.

Dutch Elm Disease - The major change in control methods to combat this disease during the past year has been, in many communities, the substitution of Methoxychlor for DDT in the dormant spray program. This material is much less toxic to other forms of life than DDT and is equally effective against the bark beetles which spread the disease.

Those cities and towns expending more than their legal liability are entitled to assistance from the Bureau, if they so request it. During the past fiscal year, the four tree removal crews assisted 80 cities and towns in the removal and destruction of 2,243 diseased and beetle infested trees at a Bureau cost of \$36,145. The crews also assisted 33 cities and towns in sampling 1,702 trees for the disease at a Bureau cost of \$4,375.

The Bureau also assisted other State agencies and other Bureaus of the Department in the removal of 69 diseased trees at a cost of \$2,675, and assisted in the taking of 27 samples at a cost of \$105.00.

The white pine blister rust control program continued as a cooperative effort involving the United States Forest Service, and the Department of Natural Resources. Work continues to be directed towards the examination for and removal of plants of the family Ribes, which includes currents and gooseberries.

These plants act as alternate host for the disease. Their complete removal insures blister rust free white pine. The two areas in the State still requiring attention are northern Worcester County and Berkshire County.

Bureau participation in this program consists in supplying two men year round, and four seasonal men during the summer. Cost to the Bureau for this work in 1963 was \$11,414,75.

Blister Rust is the only pest control program in Massachusetts in which the Federal and State Governments are cooperating at the present time. During a recent visit to this office by United States Forest Service officials, the suggestion was made that the blister rust control program be turned completely over to the Department on a reimbursement basis. Bureau personnel will, in the future, work more closely with the United States Forest Service district leader for training, looking towards the day when we will administrate the program.

It was also explained during this visit that after meeting certain requirements, the Department would be entitled to receive reimbursement for survey work conducted to determine the status of forest insects and diseases. The suggestion was made that our law be broadened to include all forest insects and diseases.

At the present time, under the Forest Pest Control Act, cooperating states my receive up to \$15,000 in reimbursement.

In the month of June, during the 1962 fiscal year, a cooperative experiment to control the gypsy moth by means of Bacillus thuringiensis was conducted. Those cooperating were the United States Forest Service, the University of Massachusetts, and the Department of Natural Resources. The results of this experiment were not evident until fall of last year.

At this time, egg mass counts were made on the sprayed plots and compared against counts made a year previously in the same plots. Although some reduction in numbers was evident, it was not enough to be called significant.

During the course of the year, numerous meetings were attended by members of the Bureau. Among these were meetings and schools held for the purpose of clarifying the pesticide situation particularly the aspect of licensing.

During October, the Annual Dutch Elm Disease Conference was held at the Waltham Field Station of the University of Massachusetts and attended by members of the Bureau.

In February the annual meeting of the Tree Wardens and Foresters Association was held. This meeting brings together each year members of the Bureau, and the local moth superintendents with whom they work.

In March, the annual meeting of the Northeastern Forest Pest Council was held in Boston. This meeting brings together most forest entomologists and pathologists in the northeast, including Canada. Two sessions are held on consecutive days - one on shade tree problems and one on forest problems.

Also attended during the same week was the annual meeting of the Eastern Plant Board. This Board consists of State and Federal regulartory officials in the northeast.

During the week of March 16 - 20, members of the Bureau attended the annual Tree Warden and Utilities Conference in Amherst. Again, this is a meeting which brings together those whose primary concern is the care and maintenance of trees.

In concluding this report, it should be noted that Mr. Clarence Parkhurst, District Supervisor of Norfolk and Bristol Counties has resigned, thus climaxing a career with the Commonwealth covering 63 years. The last 55 of these years were spent in the employ of this Bureau.